Study of the hypoglycaemic activity of Lepidium sativum L. aqueous extract in normal and diabetic rats

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Abstract

The hypoglycaemic effect of an aqueous extract of Lepidium sativum L. (LS) seeds was investigated in normal and streptozotocin (STZ)-induced diabetic rats. After acute (single dose) or chronic (15 daily repeated administration) oral treatments, the aqueous LS extract (20 mg/kg) produced a significant decrease on blood glucose levels in STZ diabetic rats (p < 0.001); the blood glucose levels were normalised 2 weeks after daily repeated oral administration of aqueous LS extract (20 mg/kg) (p < 0.001).

Significant reduction on blood glucose levels were noticed in normal rats after both acute (p < 0.01) and chronic treatment (p < 0.001). In addition, no changes were observed in basal plasma insulin concentrations after treatment either in normal or STZ diabetic rats indicating that the underlying mechanism of this pharmacological activity seems to be independent of insulin secretion.

We conclude that the aqueous extract of LS exhibits a potent hypoglycaemic activity in rats without affecting basal plasma insulin concentrations.

Keywords

Lepidium sativum L.; Streptozotocin; Aqueous extract; Oral administration and blood glucose

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